



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,585	04/11/2006	Michael Grass	DE 030351	9559
24737 7590 01/14/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER KAO, CHIH CHENG G	
			ART UNIT 2882	PAPER NUMBER
			MAIL DATE 01/14/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,585

Applicant(s)

GRASS ET AL.

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 1-9, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/11/06</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: (fig. 1, #22 and 34) and (fig. 2, #34).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

Art Unit: 2882

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The specification is objected to because it refers to claims numerous times (pg. 2, line 27; pg. 3, lines 14, 16, and 29; and pg. 4, lines 5, 10, 13, 19, 22, and 25), which may create discrepancies and new matter issues if future claim amendments were to be made. Therefore, the examiner suggests removing all references to the claims that are in the specification.

Appropriate correction is required.

4. The specification is objected to because of the following informalities, which appear to be minor draft errors including drawing inconsistencies and/or grammatical issues.

In the following format (location of objection; suggestion for correction), the following correction(s) may obviate the objection(s): (pg. 11, line 10, "detector line 50"; replacing "50" with --15--) and (pg. 12, line 12, "detector 15"; replacing "15" with --50--).

Appropriate correction is required.

Claim Objections

Claims 1-9, 12, and 13 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and/or antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following correction(s) may obviate the objection(s): (claim 1, line 1, "CSCT apparatus for examination"; replacing "CSCT" with --Coherent-scatter computed tomography (CSCT)--), (claim 4, line 3; replacing "it" with --the radiation beam--), (claim 7, line 1, "the first line"; changing the dependency of claim 7 from claim 5 to claim 6), (claim 7, line 2; deleting "with"), (claim 8, line 3, "the first detector line"; changing the dependency of claim 8 from claim 5 to claim 6), (claim 9, line 1, "the first line"; changing the dependency of claim 9 from claim 5 to claim 6), (claim 12, line 3; replacing "it" with --the radiation beam--), and (claim 13, line 5, "the object of interest"; replacing "the" with --an--).

Claims 2-9 are objected to by virtue of their dependency. For purposes of examination, the claims have been treated as such. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2882

5. Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding claim 6, the claim requires that the source of radiation be arranged opposite to the source of radiation during scanning as recited in lines 3-4. It is not clear how the source of radiation can be arranged opposite to itself, since it can only be in one place at one time. For purposes of examination, the above claim recitation has been interpreted as having the source of radiation being arranged opposite the radiation detector array during scanning.

7. Regarding claim 7, the claim requires that the first line be arranged at a distance from the first line as recited in lines 1-2. It is not clear how the first line can be arranged at a distance from itself, since it can only be in one place at one time. For purposes of examination, the above claim recitation has been interpreted as having the first line being arranged at a distance from the geometrical center of the radiation detector array in a direction along which the object of interest is displaced.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 13 claim(s) a computer program. Computer programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program’s functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Lazarev et al. (EP 1062914).

10. Regarding claims 1 and 10, Lazarev et al. discloses a coherent-scatter computed tomography (CSCT) apparatus and method (figs. 1 and 2) for examination of an object of interest (fig. 1, #4), the CSCT apparatus comprising: a source of radiation (fig. 1, #1); and a radiation detector array (fig. 1, #3); wherein the source of radiation is adapted to generate a fan-shaped

Art Unit: 2882

radiation beam (fig. 6, #8); wherein the radiation detector array (fig. 6, #3) is asymmetrically arranged with respect to the fan-shaped radiation beam.

11. Regarding claim 2, Lazarev et al. further discloses wherein the radiation beam (fig. 6, #8) penetrates the object of interest (fig. 6, #4) in a slice plane; wherein the radiation detector array (fig. 6, #3) is arranged such that the slice plane intersects the radiation detector array at a side thereof.

12. Regarding claim 3, Lazarev et al. further discloses wherein the object of interest is displaced with respect to the slice plane along a scanning direction which intersects the slice plane at an angle (col. 12, lines 15-17); wherein a location where the slice plane intersects the radiation detector array is offset with respect to a geometrical center of the radiation detector array (fig. 6, #3); wherein the location is offset from the geometrical center in the scanning direction (big arrow in fig. 2).

13. Regarding claim 4, Lazarev et al. further discloses wherein the radiation detector array (fig. 6, #3) comprises a plurality of detector lines; wherein the fan-shaped radiation beam has a width (fig. 6, #8) of at least two detector lines of the plurality of detector lines when the radiation beam impinges onto the radiation detector array (fig. 6, #3) after transmission through the object of interest (fig. 6, #4).

14. Regarding claims 5 and 12, Lazarev et al. further discloses wherein a first part of the radiation detector array (fig. 6, #3) is used for a cone beam data acquisition (fig. 6, via #8) and a second part of the radiation detector is used for scatter radiation measurements (fig. 6, via #7).

15. Regarding claims 6 and 11, Lazarev et al. further discloses wherein the source of radiation (fig. 2, #1) and the radiation detector array (fig. 2, #3) are rotatable around a rotational axis extending through an examination area for receiving the object of interest (fig. 2, #4); wherein the source of radiation (fig. 2, #1) is arranged opposite to the radiation detector array (fig. 2, #3) during scanning; wherein the source of radiation generates a fan-shaped x-ray beam (fig. 6, #8) adapted to penetrate the object of interest (fig. 6, #4) in the examination area in a slice plane; wherein the radiation detector (figs. 2 and 6, #3) includes a plurality of detector lines each with a plurality of detector elements arranged in a line; wherein the plurality of detector lines are arranged parallel to the slice plane (fig. 6, defined by #8); wherein a primary radiation (fig. 6, #8) attenuated by the object of interest (fig. 6, #4) impinges on a first line of the plurality of detector lines (fig. 6, of #3); wherein the first line is not a second line of the plurality of detector lines; wherein the second line (fig. 6, line of #3 close to the geometrical center) is extending close to the geometrical center of the radiation detector array.

16. Regarding claim 7, Lazarev et al. further discloses wherein the first line (fig. 6, defined by #8) is arranged at a distance from the geometrical center in a direction along which the object of interest (fig. 6, #4) is displaced (col. 12, lines 15-17) with respect to the radiation detector array (fig. 6, #3) during scanning.

17. Regarding claim 8, Lazarev et al. further discloses wherein a third line of the plurality of detector lines measures a scatter radiation (fig. 6, #7) scattered from the object of interest (fig. 6, #4); and wherein the third detector line is offset from the first detector line (fig. 6, defined by #8) in a direction along which the object of interest is displaced (col. 12, lines 15-17) with respect to the radiation detector array (fig. 6, #3) during scanning.

18. Regarding claim 9, Lazarev et al. further discloses wherein the first line is the last line of the radiation detector array (fig. 5, #9) in the direction along which the object of interest (fig. 2, #4) is displaced (col. 12, lines 15-17) with respect to the radiation detector array.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarev et al. in view of Li (US 6459755).

For purposes of being concise, Lazarev et al. discloses an apparatus as recited above.

However, Lazarev et al. does not specifically disclose a computer program operating the apparatus.

Li teaches a computer program (fig. 2, in #36) operating an apparatus.

Art Unit: 2882

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the apparatus of Lazarev et al. with the computer program of Li, since one would have been motivated to make such a modification for more easily executing a process via computer control.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Chih-Cheng Glen Kao
Primary Examiner
Art Unit 2882